

Mahdi Taherahmadi

GRADUATE, COMPUTER ENGINEERING, AUT (TEHRAN POLYTECHNIC)

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RESEARCH INTERESTS

Reinforcement Learning, Human-Robot Interaction, Robot Behaviour, Multi-Agent Systems
Computational Neuroscience, Cognitive Science

EDUCATION

Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran

B.Sc, Computer Engineering. July' 13 - July' 18
Cumulative Grade Point Average till now for Total 126 Passed units: 14.8/20
Related Courses (GPA: 16.98/20):

Statistical Machine Learning(Graduate Level), Data Mining, Stochastic Processes,
Engineering Statistics, Data Structures & Algorithms, Computer Architecture, Prin-
ciples of Database Design, Technical English, Research Methodology & Report Writ-
ings, Operating Systems Design, Advanced Computer Programming, Principles of
Computer & Programming

Abureyhan High School, Tehran, Iran

Diploma in Mathematics and Physics - GPA: 18.78/20 July' 09 - July' 12

RESEARCH EXPERIENCE & PROJECTS

Data Analyst - [Rahnema Co.](#)

- RDMA Big Data R&D Team
- Optimizing Digital Advertising Campaigns Jan '18 - Present

Research Intern - [AIRLab](#) - Polytechnic University of Milan

- Simulation and Evaluation of Realistic Wireless Communication in Multi-Robot
Scenarios
Supervisor: Prof. F.Amigoni May '17 - Sept '17

- Implementation of a server for simulation of realistic wireless interaction between robots and evaluate
its impact on distributed exploration algorithms.

Research Assistant - [Cognitive Robotics Lab](#) - AUT

- Vision-based Advanced Driver Assistance System(ADAS)
BSc Project - Supervisor: Dr. Shiry Oct '16

- Implementation of an intelligent driver assistance system using monocular camera images
to detect crossing pedestrian and vehicles and predict a possible collision.

- Comparing Corresponding fMRI, ECOG and EEG data in Human VTC
Joint Project with Royan Institute of Research - Supervisor: Dr. Khaligh-Razavi Oct '16

- Victim Detection and 3D Pose Estimation from 2D Images for a Rescue Robot
Supervisor: Dr. Shiry Nov '16

- Community Detection in Social Networks
Fanavard International Data Mining Challenge Oct '16
- Graph Partitioning by Optimizing modularity measure using Louvain method.

- RoboCup Rescue Simulation League Base Code
Team SOS VR, Supervisor: Dr. Shiry Sept '16

- **Object Classification using Convolutional Neural Networks with Attention Layers**
CNN Group, Supervisor: MSc S.MalekGHasemian, Prof. Safabakhsh Jan '16
- **Robust Cross Sign Detection for Aerial Robot using Template Matching Algorithm**
Supervisor: Dr. Shiry Dec '15
- **Humanoid Robot Localization and Behavior Strategy**
AUT Robotics Research Center(ARC), Supervisor: Dr. Shiry July '14 - July '15

AWARDS & ACHIEVEMENTS

- 3rd Place - FIRA RoboWorld Cup 2018** Aug '18
- Team MCS, Simurosot - Miro Middle, Taichung, Taiwan
- 3rd Place - FIRA RoboWorld Cup 2018** Aug '18
- Team MCS, Simurosot - RoboChallenge, Taichung, Taiwan
- 13th Place out of 100 teams - AUTDMC 2017** Nov '17
- Amirkabir Data Mining Cup 2017, Tehran, Iran
- 2nd Place - RoboCup 2017** July '17
- **Team SOS VR**, Rescue Simulation Virtual Robot league, Nagoya, Japan
- 1st Place - RoboCup IranOpen 2017** Apr '17
- Team SOS VR, Rescue Simulation Virtual Robot league, Tehran, Iran
- 9th Place out of 60 Teams - Sharif Programming Marathon 2016** Sept '16
- Magnet: The Localized Shopping Recommender System using PredictionIO Platform, Sharif University of Technology, Tehran, Iran
- 3rd Place - RoboCup 2016** July '16
- Team SOS VR, Rescue Simulation Virtual Robot league, RoboCup 2016, Leipzig, Germany
- 3rd Place - RoboCup 2015** July '15
- Teen size humanoid soccer league, RoboCup 2015, Hefei, China
- Top 0.03% - among more than 300,000 participants** July '13
- Nation-wide University Entry Exam

PUBLICATIONS & TECHNICAL REPORTS

- M. TaherAhmadi**, J. Banfi, F. Amigoni. "Simulation and Evaluation of Realistic Wireless Communication in Multi-Robot Scenarios". *Intelligent Robots and Systems, IROS. IEEE/RSJ International Conference*. IEEE, 2019(to be submitted).
- S. Azami, **M. TaherAhmadi**. "Parametric and Non-Parametric Model for Power Usage Data Time Series Analysis", Technical Report on Statistical Machine Learning Final Project, Oct '16.
- S. Azami, **M. TaherAhmadi**. "Implementing and Evaluating Naive Bayes Model and PGM for Heart Disease Classification", Technical Report on SML Final Project, Oct '16.
- M. TaherAhmadi**. "Implementing and Analysing Linear Regression on a Data Set of Student Grades", Technical Report on SML Final Project, Oct '16.
- M. TaherAhmadi**, S. Azami, S. Shiry, "S.O.S VR Team Description Paper, RoboCup2016 Rescue Virtual Robot League", *International RoboCup Competition*, July 2016, Leipzig, Germany.
- S. Azami, **M. TaherAhmadi**, "Image Compression Using Low-Rank Matrix Approximation", Technical Report for Advanced Mathematics course Project, Dec '16.

TEACHING EXPERIENCE

- Computer Engineering Department, Amirkabir University of technology:
 - **Teaching Assistant** - *Linear Algebra and its Applications* - Dr. Ehsan Nazerfard *spring '17*
 - **Teaching Assistant** - *Principles of Programming Languages(C)* - Dr. Shiry *Fall '16*
 - **Teaching Assistant** - *Engineering Statistics* - Dr. AmirHaery *Spring '16*
 - **Teaching Assistant** - *Discrete Structures* - Dr. Fallah *Spring '16*
 - **Teaching Assistant** - *Data Structures & Algorithms* - Dr. Dehghan *Fall '15*
 - **Teaching Assistant** - *Principles of Programming Languages(C)* - Dr. Shiry *Fall '15*
 - **Teaching Assistant** - *Advanced Programming (JAVA)* - Dr. Pourvatan *Spring '15*
 - **Teaching Assistant** - *Principles of Programming Languages(C)* - Dr. Shiry *Fall '14*
- Medical Engineering Department, Amirkabir University of technology:
 - **Teaching Assistant** - *Robotics* - Dr. AhmadiPajouh *Fall '15*

NOTABLE COURSEWORK PROJECTS	Heart Disease Classification using PGM - <i>Statistical Machine Learning</i>	<i>Fall '16</i>
	Power Usage Data Time Series Analysis - <i>Statistical Machine Learning</i>	<i>Fall '16</i>
	Linear Regression on Student Grades Data - <i>Statistical Machine Learning</i>	<i>Fall '16</i>
	Face Recognition Using SVD - <i>Advanced Engineering Mathematics</i>	<i>Fall '16</i>
	SVD Image Compressor - <i>Advanced Engineering Mathematics</i>	<i>Fall '16</i>
	Graph Based Motion Planner - <i>Design Algorithm</i>	<i>Spring '15</i>
	Huffman Coding Data Compression - <i>Data structures & algorithms</i>	<i>Fall '14</i>
	Joumoung (The Strategy Game) - <i>Advanced Programming(Java)</i>	<i>Spring '14</i>
	Mini Assembler - <i>Principles of Programming Languages(C)</i>	<i>Fall '13</i>
WORK EXPERIENCE	Data Analyst - Python, Plotly Dash, Apache Airflow, Apache Spark, Oracle DB, MongoDB - <i>Rahnema Company</i> , Beheshti ave, Tehran, Iran.	<i>Jan '18 - Present</i>
	Back-End Developer - Python, JS, PHP, Symfony, Git, Redmine - <i>ZoodFood Company</i> , <i>IIG</i> (Iran Internet Group), Vanak sq, Tehran, Iran.	<i>July '15 - Oct '16</i>
	Software Developer - Java, MySql, HTML, CSS, Illustrator, Git - <i>RAPNA</i> , Roshd Science & Technology Center, Tehran, Iran.	<i>Aug '13 - Dec '14</i>
COMPUTER SKILLS	Languages: C, C++, Qt, Java, Python, Matlab, Bash, JS, PHP, Assembly Database Systems: MySQL, SQL Server Typesetting: L ^A T _E X, Microsoft Word Frameworks, Operating Systems, and Scientific Tools: Linux, ROS, OpenCV, Weka, Caffe, Theano, Spark, NumPy, Pandas, Scikit-learn, pgmpy, Git, Docker Designing Tools: Adobe Photoshop, Adobe Illustrator, Gimp	
VOLUNTEER EXPERIENCE & POSITION OF RESPONSIBILITY	Technical Committee of RoboCup AsiaPacific 2018 - Virtual Robot Rescue.	<i>Dec '18</i>
	Technical Committee of RoboCup IranOpen 2018 - Virtual Robot Rescue.	<i>Apr '18</i>
	Lecturer at CEIT Robotic Summer School - <i>Introduction to ROS</i>	<i>June '17</i>
	Presenter at 9th Linux Festival - <i>Introduction to Virtual Robot</i>	<i>May '17</i>
	Technical Committee of RoboCup IranOpen 2017 - Virtual Robot Rescue.	<i>Apr '17</i>
	Leader of Team S.O.S vr - RoboCup Rescue, Virtual Robot Competition.	<i>July '16</i>
	Presenter at 8th Linux Fest - <i>Introduction to Cuda, Caffe, ROS & Docker</i>	<i>May '16</i>
	Member of 7th, 8th & 9th Linux Fest Organization team	<i>May '16</i>
	Director of Cognitive Robotics Lab - Computer Engineering department.	<i>July '15</i>
	Coach and Captain of Faculty football team.	<i>Sept '14</i>
SPOKEN LANGUAGES	Persian (Native), Turkish (Native), Arabic (Fair)	
	English (Fluent) (TOEFL - 10 Nov - R:26 L:28 S:22 W:23 - Total:99)	
	(TOEFL - 1 Dec - R:25 L:25 S:26 W:22 - Total:98)	
REFERENCES	Professor Saeed Shiry - Computer Engineering Department, Amirkabir University of technology - Email: shiry@aut.ac.ir - Home Page	
	Professor Francesco Amigoni - Department of Electronics, Information and Bioengineering, Polytechnic of Milan - Email: francesco.amigoni@polimi.it - Home Page	
	Professor Jacky Baltes - Electrical Engineering Department, National Taiwan Normal University (NTNU) - Email: jacky.baltes@ntnu.edu.tw - Home Page	